

**Additional Practice****Lessons 5.5 and 5.6****Determine the domain for each function.**

1.  $f(x) = x + 3$

2.  $x \mapsto (x + 3)^2$

3.  $g(x) = \frac{1}{x + 3}$

4.  $x \mapsto \sqrt{x + 3}$

5.  $h(x) = x^2 + 3$

6.  $x \mapsto |x + 3|$

**Use the functions  $f(x) = 2x + 3$ ,  $g(x) = \frac{x+6}{2}$ , and  $h(x) = \frac{3}{x+2}$  to find each of the following.**

7.  $f(4)$

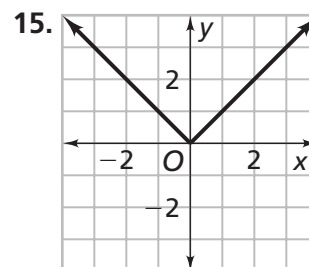
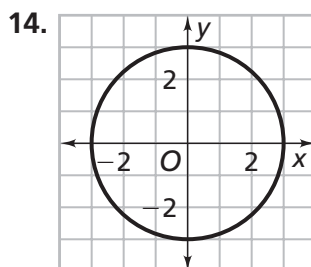
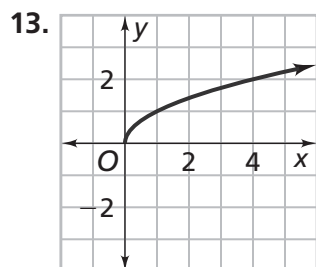
8.  $g(4)$

9.  $h(4)$

10.  $f(g(4))$

11.  $f(h(4))$

12.  $h(f(x))$

**Decide whether each graph is the graph of a function. Explain.****For Exercises 16–21, graph each function.**

16.  $f(x) = 4x + 2$

17.  $f(x) = -\frac{2}{3}x + 6$

18.  $f(x) = |x| - 1$

19.  $x \mapsto -|x + 2|$

20.  $x \mapsto 2x^2$

21.  $x \mapsto -x^2$

**22.** A resort charges \$50 plus \$10 per person to rent a cabin for a day.

- Write a rule to calculate the total cost of renting a cabin for a day.
- Use your rule to find the total cost for six people to stay in a cabin for a day.

**23.** You invest \$209 to buy shirts and sell them for \$9.50 each.

- Write a rule to calculate your profit.
- Use your rule to find your profit after selling 24 shirts.
- How many shirts do you need to sell in order to make back your investment?